3millID™

style or technology - now you can have both

3M S-Gang Keypad MANUAL

Product Features

Designed to embrace cutting-edge RFID technologies in a stylish and innovative package, this advanced access control reader offers a refreshing breakthrough in the access security marketplace. Shaped in a sleek single-gang style design, with an RGB LED illuminated keypad, offering 'prox-and-pin' security, the reader may be fixed directly onto a US electrical backbox.

This powerfully secure and innovative reader has a beautifully clean aesthetic, and a bright RGB LED that can be applied to many applications such as colour coded access levels, migration status or mood lighting.

The reader housing is moulded using tough polycarbonate plastic, and includes a shadow-line backplate, a subtle and simple mechanical design feature that makes the reader, when fixed, appear to float against the wall.

Images shown in this document are for illustrative purposes only. The features, colours, style and appearance may change without notice.

- 125KHz Proximity
- 13.56MHz Smart Contactless

- Bluetooth LE

- Black textured moulding
- Slim profile
- RGB LED
- Fully encapsulated electronics
- RGB illuminated keypad
- Wide range of output formats
- 5 year limited warranty
- Read range up to 10cm (4 inches)

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

100-02640-A

3millID™

style or technology - now you can have both

3M S-Gang Keypad MANUAL

CONTENTS

SECTION	TITLE	PAGE
1.	Parts List	3
2.	Specification	3
3.	Installation Guide	4
4.	Keypad (programming guide)	5

Images shown in this document are for illustrative purposes only. The features, colours, style and appearance may change without notice.

FC UTJ-AV90

These devices comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

These devices contains: **FCC ID: TCZ-10103751G1**

SECURITY UL LISTED EQUIPMENT *******

CE

These RFID proximity readers comply with the essential requirements and relevant provisions of:
EU Directive 2014/53/EC

RoHS

Together with information provided by suppliers and subcontractors, these devices comply with the requirements and relevant provisions of:
EU Directive 2011/65/EC

This symbol on the product or on its packaging indicates that the product must not be disposed of with normal household waste. Instead, it is your responsibility to dispose of your waste equipment by arranging to return it to a designated collection point for the recycling of waste electrical and electronic equipment. By separating and recycling your waste equipment at the time of disposal you will help to conserve natural resources and ensure that the equipment is recycled in a manner that protects human health and the environment.
EU Directive 2012/19/EC

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

3M S-Gang Keypad MANUAL

1. parts list

1 x reader MODULE
1 x reader BACKPLATE
1 x 3 x 10mm black cross-head securing screw

2. specification

performance level for access control

This product complies with the following UL294 Access Control Performance Levels:

Destructive Attack	Level I
Line Security	Level I
Endurance	Level IV
Standby Power	Level I

See the UL Listed access control unit controller installation instructions for reader compatibility.

UL Ref. Number ??????

environmental

Operating Temperature	-35°C to +66°C	(-31°F to + 151°F)
Humidity	85 ±5% at 30 ±2°C	(86 ±3°F)
Ingress Protection	IP65	(not evaluated by UL)
Positioning	Suitable for INDOOR and OUTDOOR use.	

electrical

Power supply	Power is to be provided by a UL294 Listed, low-voltage Class 2 power limited supply or control panel, capable of 4 hours standby.
Voltage	+10Vdc to +16Vdc
Current	135mA typical
Data Voltage	Rest >4Vdc / Active <1Vdc
Data Output	Wiegand, Clock & Data, Custom Outputs
Indication	1 RGB LED + RGB illuminated keypad
Sounder	Integral speaker

dimensions

120mm x 76mm x 21mm (4.7 x 3.0 x 0.8 inches)

polymeric materials

Potting compound	UL R/C (QMFZ2)
Mouldings	UL746C

wiring

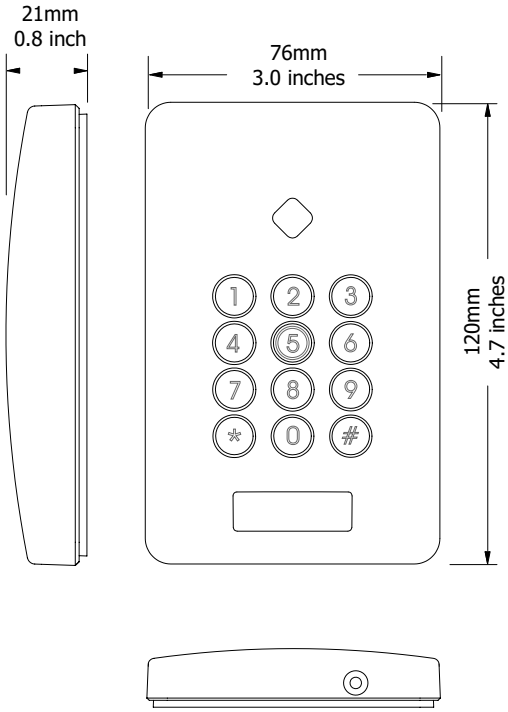
Wiring methods shall be in accordance with the National Electrical Code (ANSI/NFPA70), local codes, and the authorities having jurisdiction.

Recommended cable	BELDEN 953x (or equivalent UL listed) - Wiegand BELDEN 9502 (or equivalent UL listed) - RS485 All cable and wiring must be Listed and suitable for use.
Cable length	Cable length must not exceed 30 metres maximum (98.5 feet) for UL
Minimum permissible wire size	not less than 26 AWG (0.24mm²)

connections

Screw terminal (All readers in this series use this terminal connection)

1	-	0V	Supply voltage ground
2	-	+Vdc	Supply voltage (+10Vdc to +16Vdc)
3	-	DATA1/CLK	Wiegand or Clock/Data output
4	-	DATA0/DAT	Wiegand or Clock/Data output
5	-	GREEN	Green LED control input
6	-	RED	Red LED control input
7	-	Buzzer	Buzzer control input
8	-	TMPR/CP	Tamper or Card Present output
9	-	RS485-	RS485 Bus
10	-	RS485+	RS485 Bus



3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129
www.3millid.com +1 303 475 4972 sales@3millid.com

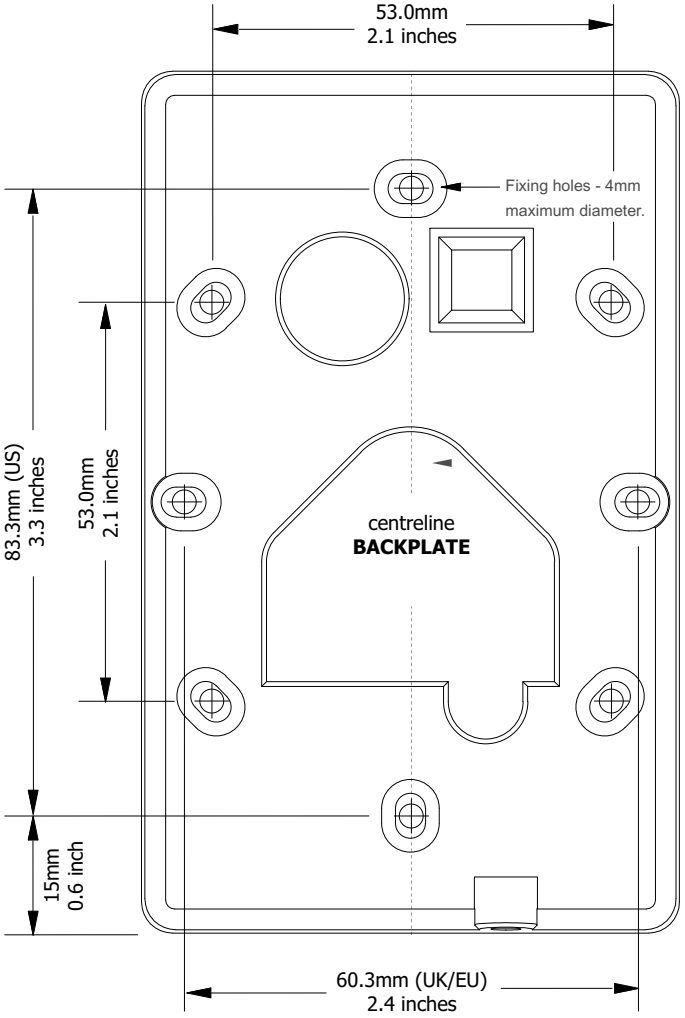
3. installation guide

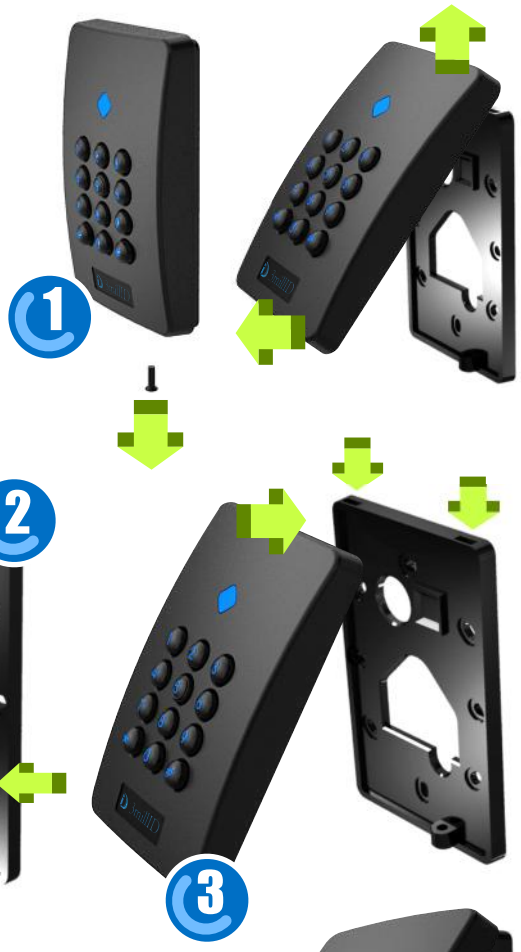
1. Remove module securement screw. Lever bottom edge of reader module away from the backplate, and lift up.

2. Fix reader BACKPLATE to a plain surface finish, using suitable screw fixings having a diameter no greater than 4mm (0.15 inch).

If printed full scale, you may use the drawing below as a fixing template.
MEASURE and CHECK DIMENSIONS before use.

NOTE:
Mounting this reader on (or near) metal may impair the read range of the unit.





Once the backplate is secured, make wire connections to the reader, in accordance with the screw terminal connections shown on Page 3 of this document and your control panel requirements. Ensure the cable does not impair or prevent the reader module being secured.

3. Fasten the reader module, ensuring the top-edge fixings engage correctly with the recesses at the top of the backplate. Swing the bottom edge of the module down and forward until you feel the unit 'snap' shut.
Secure the module to the backplate using the M3x10mm screw supplied.
If required, you may opt to use a security screw to the sizes shown here.

Following installation, it is recommended the access control system and control units are subjected to a maintenance and operational test procedure.
TEST COMPLETE SYSTEM AT LEAST ONCE A YEAR

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

KEYPAD SECTION	TITLE	DESCRIPTION	page
*00	LOG ON	- entering programming mode	6
*01	PIN MODE	- set PIN mode (output)	6
*02	KEY TONE	- set audible tone on key press	7
*03	CARD TONE	- set audible tone on card	7
*04	PROX READ	- set proximity reading	7
*05	RX00 LED	- set LED colour configuration	8
*06	SITE CODE	- set site code embedding	8
*07	RX00 COLOUR	- set LED quiescent colour	8
*10	RX00 HID	- set reader to read HID®	9
*11	RX00 EM	- set reader to read EM	9
*12	RX00 CASI	- set reader to read CASI	9
*13	RX00 AWID	- set reader to read AWID	10
*14	RX00 KANTECH	- set reader to read KANTECH	10
*15	RX00 FARPOINTE	- set reader to read FARPOINTE	10
*20	RX80 MIFARE	- set reader to read MIFARE®	11
*21	RX80 ENDIAN	- set reader to read ENDIAN	11
*30	RX90 DESFIRE	- set reader to read DESFire®	11
*98	SET PIN	- set engineer's PIN code	12
*99	LOG OFF	- exit configuration mode	12

'MIFARE', 'MIFARE Classic' and 'MIFARE DESFire EV1' are trademarks of NXP B.V.

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

*00 LOG-ON PIN CODES — entering 'PROGRAMMING MODE'

***00nnnn#**

Before you can configure the reader you **MUST** enter programming mode by using this command. You must enter the correct four-digit security PIN for the reader.

The factory default PIN = **1234**

example

To place a FACTORY-DEFAULT reader into programming mode, you must enter: ***001234#**

NOTE: To change the log-on PIN code, see:
Section *98 on **Page 12** of this document.

NOTE: To exit PROGRAMMING MODE see:
Section *99 on **Page 12** of this document.

You must correctly exit this mode to save any changes to values or settings you may have made.

After entering programming mode, the reader will time out after approximately **30** seconds if no keys are pressed for that duration. Any changes you may have made to values or settings will be lost.

*01 PIN mode PIN CODES — set PIN mode (output)

***01n#**

This programming command allows you to configure how the reader handles keypad data. The reader is capable of keypad data output in a number of industry-standard formats. The following modes are supported:

- ***010#** ..... DISABLED (NO keypad output)
- ***011#** ..... HID 4-bit WIEGAND (factory default)
- ***012#** ..... Dorado 8-bit WIEGAND (compatible with INDALA)
- ***013#** ..... Mercury 8-bit WEIGAND burst
- ***014#** ..... 1 digit CLOCK and DATA
- ***015#** ..... Dorado 8-bit burst
- ***016#** ..... 8 digit CLOCK and DATA (buffered)
- ***017#** ..... 26-bit WIEGAND (buffered)
- ***018#** ..... 32-bit WIEGAND (buffered)
- ***019#** ..... 34-bit WIEGAND (buffered)

example

To set the reader to buffer keystrokes and output them in the industry-standard **26-bit WIEGAND** format, you should enter: ***017#** once the reader has been placed into programming mode.

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

*02 KEY TONE PIN CODES — set AUDIBLE TONE on KEY PRESS

***02n#**

During the entry of a buffered PIN you have the option of making the reader issue a confirmation beep or an error (triple-beep) on entering the PIN.

***020#** ..... DISABLE (NO audio tone) (factory default)
***021#** ..... ENABLE (audible tone on PIN entry)

example

To **ENABLE** the buzzer, enter: ***021#** once the reader has been placed into programming mode.

*03 CARD TONE PIN CODES — set AUDIBLE TONE on CARD

***03n#**

During the entry of a buffered PIN you have the option of making the reader issue a confirmation beep or an error (triple-beep) on presenting a CARD.

***030#** ..... DISABLE (NO audio tone) (factory default)
***031#** ..... ENABLE (audible tone on presenting a card)

example

To **ENABLE** audio tone, enter: ***031#** once the reader has been placed into programming mode.

*04 PROX READ PIN CODES — set PROXIMITY READING

***04n#**

This programming command allows you to disable transmission of the proximity card data from the reader.

The reader will still beep to indicate that it has read the card.

***040#** ..... DISABLE (data will NOT be sent)
***041#** ..... ENABLE (data WILL be sent) (factory default)

example

To **DISABLE** transmission of the card data, enter: ***040#** once the reader has been placed into programming mode.

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

*05 RX00 LED PIN CODES — set LED COLOUR CONFIGURATION

***05n#**

The LED may be configured to the following modes:

- ***050#** ..... RX standard LED configuration
- ***051#** ..... RX Demo
- ***052#** ..... RX buzzer
- ***053#** ..... RX AWE (excluded from documentation)
- ***054#** ..... RX MPS (excluded from documentation)

example

To set **RX Demo** enter: ***051#** once the reader has been placed into programming mode.

*06 SITE CODE PIN CODES — set SITE CODE EMBEDDING

***06nnnnn#**

This option allows the SITE CODE number to be combined with the card number read from the card and sent as the complete card info' message. The unit accepts site codes from **0** to **65535** - **however the maximum valid value depends on the output format.**

example

To embed **SITE CODE '123'** enter: ***0600123#** once the reader has been placed into programming mode.

*07 RX00 COLOUR PIN CODES — set LED QUIESCENT COLOUR

***07n#**

The LED may be configured to the following standard colours.

- ***070#** ..... Blue
- ***071#** ..... Magenta
- ***072#** ..... Yellow
- ***073#** ..... Orange
- ***074#** ..... Red
- ***075#** ..... White
- ***076#** ..... Turquoise
- ***077#** ..... OFF (LED disabled when in idle mode)

example

To set the LED to **TURQUOISE** enter: ***076#** once the reader has been placed into programming mode.

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

*10 RX00 HID PIN CODES — set reader to read 'HID®'

***10n#** Configure reader to read 'HID®' proximity cards.

- ***100#** ····· DISABLE function
- ***101#** ····· WIEGAND Pass Through
- ***102#** ····· Clock and Data

example To set **WIEGAND Pass Through** enter: ***101#** once the reader has been placed into programming mode.

*11 RX00 EM PIN CODES — set reader to read 'EM'

***11n#** Configure reader to read 'EM' proximity cards.

- ***110#** ····· DISABLE function
- ***111#** ····· 26-bit WIEGAND
- ***112#** ····· 34-bit WIEGAND
- ***113#** ····· 42-bit WIEGAND
- ***114#** ····· Clock and Data

example To set **26-bit WIEGAND** enter: ***111#** once the reader has been placed into programming mode.

*12 RX00 CASI PIN CODES — set reader to read 'CASI'

***12n#** Configure reader to read 'CASI' proximity cards.

- ***120#** ····· DISABLE function
- ***121#** ····· 4001 40-bit WIEGAND
- ***122#** ····· 4002 40-bit WIEGAND
- ***123#** ····· Extended 4001 40-bit WIEGAND
- ***124#** ····· Extended 4002 40-bit WIEGAND

example To set **4001 40-bit WIEGAND** enter: ***121#** once the reader has been placed into programming mode.

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

*13 RX00 AWID PIN CODES — set reader to read 'AWID'

***13n#** Configure reader to read 'AWID' proximity cards.

***130#** ..... DISABLE function
***131#** ..... ENABLE function

example To set **ENABLE** 'AWID' function, enter: ***131#** once the reader has been placed into programming mode.

*14 RX00 KANTECH PIN CODES — set reader to read 'KANTECH'

***14n#** Configure reader to read 'KANTECH®' proximity cards.

***140#** ..... DISABLE function
***141#** ..... 26-bit WIEGAND
***142#** ..... 39-bit XSF WIEGAND

example To set **KANTECH 26-bit Wiegand** enter: ***141#** once the reader has been placed into programming mode.

*15 RX00 FARPOINTE PIN CODES — set reader to read 'FARPOINTE'

***15n#** Configure reader to read 'FARPOINTE®' proximity cards.

***150#** ..... DISABLE function
***151#** ..... ENABLE function

example To enable **Farpointe** enter: ***151#** once the reader has been placed into programming mode.

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129
www.3millid.com +1 303 475 4972 sales@3millid.com

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

*20 RX80 MIFARE PIN CODES — set reader to read 'MIFARE®'

***20n#** Configure reader to read 'MIFARE®' proximity cards.

- ***200#** ..... DISABLE function
- ***201#** ..... 26-bit WIEGAND
- ***202#** ..... 32-bit WIEGAND
- ***203#** ..... 34-bit WIEGAND
- ***204#** ..... Clock and Data
- ***205#** ..... MIFARE® SE

example To set **26-bit Wiegand** enter: ***201#** once the reader has been placed into programming mode.

*21 RX80 ENDIAN PIN CODES — set reader to read 'ENDIAN'

***21n#** Configure reader to read 'ENDIAN' proximity cards.

- ***210#** ..... Big ENDIAN
- ***211#** ..... Little ENDIAN

example To set **Little ENDIAN** enter: ***211#** once the reader has been placed into programming mode.

*30 RX90 DESFire PIN CODES — set reader to read 'DESFire®'

***30n#** Configure reader to read 'DESFire®' proximity cards.

- ***300#** ..... DISABLE function
- ***301#** ..... ENABLE function

example To **ENABLE** function, enter: ***301#** once the reader has been placed into programming mode.

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

*98 set PIN PIN CODES — set engineer's PIN code

***98ooooonnnn#**

Use this code to change the factory default PIN to your own 4 digit engineer's PIN setting.

The factory default PIN = **1234**

oooo ····· current PIN (4 digits) (factory default = 1234)

nnnn ····· engineer's PIN setting (4 digits)

NOTE: Remember to keep a record of your new PIN.

WARNING: If you forget your PIN setting, you will need to contact your INSTALLER or SUPPLIER to obtain a **RESET** code.

example To set your new PIN to **6789** enter: ***9812346789#** once the reader has been placed into programming mode.

After entering programming mode, the reader will time out after approximately **30** seconds if no keys are pressed for that duration. Any changes you may have made to values or settings will be lost.

*99 LOG OFF PIN CODES — EXIT CONFIGURATION MODE

***99#**

Use this code to EXIT the CONFIGURATION MODE of the reader.

NOTE: You **MUST** use this code to ensure any changes to values or settings you may have made, are safely SAVED to the reader.

example Enter: ***99#** to exit CONFIGURATION MODE (and save any settings made).

After entering programming mode, the reader will time out after approximately **30** seconds if no keys are pressed for that duration. Any changes you may have made to values or settings will be lost.

4. END of keypad programming guide

3millID 9249 S. Broadway Building #200 Suite 826 Highlands Ranch CO 80129

www.3millid.com +1 303 475 4972 sales@3millid.com